

AL ALWAIYA CHILDREN'S HOSPITAL  
BAGHDAD, IRAQ



**SIGIR PA-06-065**  
**JANUARY 10, 2007**

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## SPECIAL INSPECTOR GENERAL FOR IRAQ RECONSTRUCTION

January 10, 2007

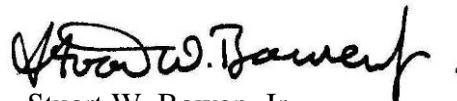
MEMORANDUM FOR DIRECTOR, IRAQ RECONSTRUCTION MANAGEMENT  
OFFICE  
COMMANDING GENERAL, GULF REGION DIVISION,  
U.S. ARMY CORPS OF ENGINEERS

SUBJECT: Report on Project Assessment of the Al Alwaiya Children's Hospital,  
Baghdad, Iraq (Report Number SIGIR-PA-06-065)

We are providing this project assessment report for your information and use. We assessed the design and construction work being performed at the Al Alwaiya Children's Hospital, Baghdad, Iraq to determine its status and whether intended objectives will be achieved. This assessment was made to provide you and other interested parties with real-time information on a relief and reconstruction project underway and in order to enable appropriate action to be taken, if warranted. The assessment team included an engineer/inspector and an auditor/inspector.

This report does not contain any negative findings. As a result, no recommendations for corrective action were made and further management comments are not requested.

We appreciate the courtesies extended to our staff. If you have any questions please contact Mr. Brian Flynn at [brian.flynn@sigir.mil](mailto:brian.flynn@sigir.mil) or at 914-360-0607. For public or congressional queries concerning this report, please contact SIGIR Congressional and Public Affairs at [publicaffairs@sigir.mil](mailto:publicaffairs@sigir.mil) or at (703) 428-1100.



Stuart W. Bowen, Jr.  
Inspector General

# Special Inspector General for Iraq Reconstruction

SIGIR PA-06-065

January 10, 2007

## Al Alwaiya Children's Hospital, Baghdad, Iraq

### Synopsis

**Introduction.** This project assessment was initiated as part of our continuing assessments of selected sector reconstruction activities for Facilities and Transportation. The overall objectives were to determine whether selected sector reconstruction contractors were complying with the terms of their contracts or task orders and to evaluate the effectiveness of the monitoring and controls exercised by administrative quality assurance and contract officers. We conducted this project assessment in accordance with the Quality Standards for Inspections issued by the President's Council on Integrity and Efficiency. The assessment team included a professional engineer and an auditor. The Al Alwaiya Children's Hospital project was part of a Task Order to rehabilitate the maternity and pediatric hospitals located in southern Iraq. The Task Order noted that the existing hospital facilities were insufficient in fulfilling functional and cleanliness requirements and had fallen into a state of disrepair. The major focus of the contract was the completion and the installation of new updated equipment and critical facility systems including mechanical, electrical, structural, and sanitary systems.

**Project Assessment Objectives.** The objective of this project assessment was to provide real-time relief and reconstruction project information to interested parties in order to enable appropriate action, when warranted. Specifically, we determined whether:

1. Project components were adequately designed prior to construction or installation;
2. Construction or rehabilitation met the standards of the design;
3. The Contractor's Quality Control plan and the U.S. Government's Quality Assurance program were adequate;
4. Sustainability was addressed in the contract or task order for the project; and
5. Project results were consistent with original objectives.

**Conclusions.** The assessment determined that:

1. The design provided to the assessment team was sufficient to renovate the facility. The design included architectural, electrical, mechanical, and plumbing drawings. Design drawings and specifications appeared to be complete and consistent with the requirements of the contract. The design, coupled with a consistent bill of quantities, provides enough information and detail for the contractor to renovate and modernize the Al Alwaiya Children's Hospital.
2. Based upon the review of the U.S. Army Corps of Engineers Quality Assurance reports and construction photos, and our site visits, the work observed appeared to be consistent with the standards of the contract design. The U.S. Army Corps of Engineers Deputy Resident Engineer and staff capably managed the project. As a result, the city of Baghdad, Iraq should receive a renovated and modernized Children's Hospital.
3. The contractor's Quality Control plan was sufficiently detailed to effectively guide the contractor's quality management program. The contractor submitted a

Quality Control plan, which based on our review, met the standards addressed in Engineering Regulation 1180-1-6 (*Construction Quality Management*). The contractor submitted Quality Control reports on a daily basis, which were reviewed by the U.S. Army Corps of Engineers Deputy Resident Engineer. The Quality Control reports did not always include sufficiently complete daily observations of what occurred at the site, problems encountered at the site that required corrective actions, or solutions achieved to correct problems at the site. The contractor did not maintain deficiency logs to document problems noted with construction/renovation activities.

The Government Quality Assurance program was effective in monitoring the contractor's Quality Control program. The U.S. Army Corps of Engineers Quality Assurance Representative maintained daily Quality Assurance reports that documented any deficiencies noted at the site. Based on our review, we found the Quality Assurance Representative's reports to be sufficiently complete, accurate, and timely. In addition to containing project specific information to document construction progress and highlight deficiencies, the Quality Assurance Representative also supplemented them with detailed photographs that reinforced the narrative information provided in the reports. The Quality Assurance Representative did maintain a Quality Assurance deficiency log, and the Deputy Resident Engineer and the Quality Assurance Representative ensured deficiencies cited during Quality Assurance inspections were corrected.

4. Sustainability was addressed in the Task Order requirements. The Task Order required a one-year warranty for all building equipment, construction, and components and commonly offered extended warranties for equipment and machinery purchased. In addition, the task order required three copies of legible operation and maintenance manuals in English and Arabic for all new equipment, finishes, fixtures, and hardware.
5. The Al Alwaiya Children's Hospital project results, to date, are consistent with the original contract objectives. As a result of the renovation/modernization, this hospital will render a modern facility that provides a healthy and safe environment for its patients, visitors, and employees.

**Recommendations and Management Comments.** This report does not contain any negative findings or recommendations for corrective action. Although management comments were not required, the Commander, Gulf Region Division of the U.S. Army Corps of Engineers provided comments concurring with the draft report.

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# Introduction

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## Objective of the Project Assessment

The objective of this project assessment was to provide real-time relief and reconstruction project information to interested parties in order to enable appropriate action, when warranted. Specifically, we determined whether:

1. Project components were adequately designed prior to construction or installation;
2. Construction or rehabilitation met the standards of the design;
3. The Contractor's Quality Control plan and the U.S. Government's Quality Assurance (QA) program were adequate;
4. Sustainability was addressed in the contract or task order for the project; and
5. Project results were consistent with original objectives.

## Pre-Site Assessment Background

### Contract, Task Order and Costs

The Al Alwaiya Children's Hospital Modernization Project was originally to be completed under Contract W914NS-04-D-0006, dated 25 March 2004. Task Order (TO) 0006 of Contract W914NS-04-D-0006 was originally a design/build type contract; however, the contract was to be re-negotiated to a firm, fixed-price contract after completion of the 65% design. The Coalition Provisional Authority (CPA) awarded the contract to Parsons Delaware, Inc. There were 12 modifications to the initial contract.

- Modification #01, issued 3 August 2004, incorporated additional language into the original TO.
- Modification #02, issued 25 May 2004, identified that only warranted Contracting Officers within the Baghdad Contracting Office with the appropriate level of authority and dollar threshold limitation can execute contractual documents related to this Contract and its associated TOs.
- Modification #03, unsigned but dated 2 June 2004, supplemented existing contract language located within Federal Acquisition Regulation (FAR) 52.216-7, "Allowable Cost and Payment (Dec 2002)" by stating invoices/vouchers shall be submitted directly to the Defense Contract Audit Agency (DCAA) offices for review and provisional approval and to the U.S. Army Corps of Engineers (USACE) Finance Center Millington.
- Modification #04, issued 4 July 2004, changed the CPA Contracting Office to the Project and Contracting Office (PCO).
- Modification #05, issued 12 October 2004, transferred administrative responsibility for TOs issued for this contract to the USACE Gulf Region Division (GRD). The contracting officer reserved the right to modify this delegation for specific TOs.
- Modification #06, issued 16 November 2004, added Contract Line Items (CLINs) 0001 through 0008 and FAR clause 52.217-9.
- Modification #07, issued 2 March 2005, clarified the invoicing process and defined what was considered a Proper Invoice for payment purposes.
- Modification #08, issued 3 March 2005, constituted a formal Notice to Proceed (NTP) for contractors to use transponders on security vehicles used

to accompany what the contractors seem to be high value cargo convoys and critical personnel moving into and throughout Iraq.

- Modification #09, issued 1 June 2005, rescinded Modification #07.
- Modification #10, issued 21 May 2005, authorized invoicing of \$772,284 for the award fee for the period 26 September 2004 through 26 March 2005.
- Modification #11, issued 8 August 2005, transferred administrative responsibility for TOs issued for this contract to the USACE GRD directly, in accordance with the Memorandum of Understanding between the Joint Contracting Command – Iraq/Afghanistan (JCC-I/A) and GRD Business Management Director, signed 21 July 2005. The contracting officer reserved the right to modify or terminate delegation for specific TOs at any time.
- Modification #12, issued 25 August 2005, amended the Award Fee Plan.

In May 2006, the PCO, the successor to the CPA, novated its contract with the prime contractor, Parsons Global Services, Inc., and awarded on 11 May 2006, Contract W91GXZ-06-C-0010, a bridge contract, to the Parsons Global Services, Inc.'s subcontractor, the Rukin Al-Zawraa Company. The Al Alwaiya Children's Hospital Modernization project is being completed under Contract W91GXZ-06-C-0010, in the amount of \$232,623.60. There is one modification for this contract.

- Modification #01, issued 24 June 2006, increased the contract cost by \$1,055,376.40, from \$232,623.60 to \$1,288,000.00.

### **Project Objective**

Based on the original TO with Parsons, the objective was to rehabilitate the maternity and pediatric hospitals located throughout governorates in southern Iraq, which included the Al Alwaiya Children's Hospital. The TO noted the existing hospital facilities were insufficient in fulfilling functional and cleanliness requirements and had fallen into a state of disrepair. Subsequent to the termination of the Parsons contract, the follow-on contract objective was to continue the current progress of reworking the hospital's infrastructure and to complete the renovation. According to the contract scope of work (SOW), the major focus of the contract was the completion and the installation of new updated equipment and critical facility systems including mechanical, electrical, structural, and sanitary systems.

### **Description of the Facility (pre-construction)**

The description of the facility (pre-construction) was based on information obtained from the USACE project file. The Al Alwaiya Children's Hospital, located in central Baghdad, was constructed in 1956. Prior to the start of the renovation project, the hospital capacity was 100 beds. When the project began, the hospital's infrastructure was in very poor condition. An assessment of the hospital prior to the renovation project documented significant problems with the hospital's mechanical, electrical, structural, and sanitary systems.

### **Scope of Work of the Task Order and Follow-On Contract**

The SOW for the original Parsons TO included an investigation phase, as well as a design and construction phase. The TO Statement of Requirements and Specifications (SRS) included requirements for the following work items:

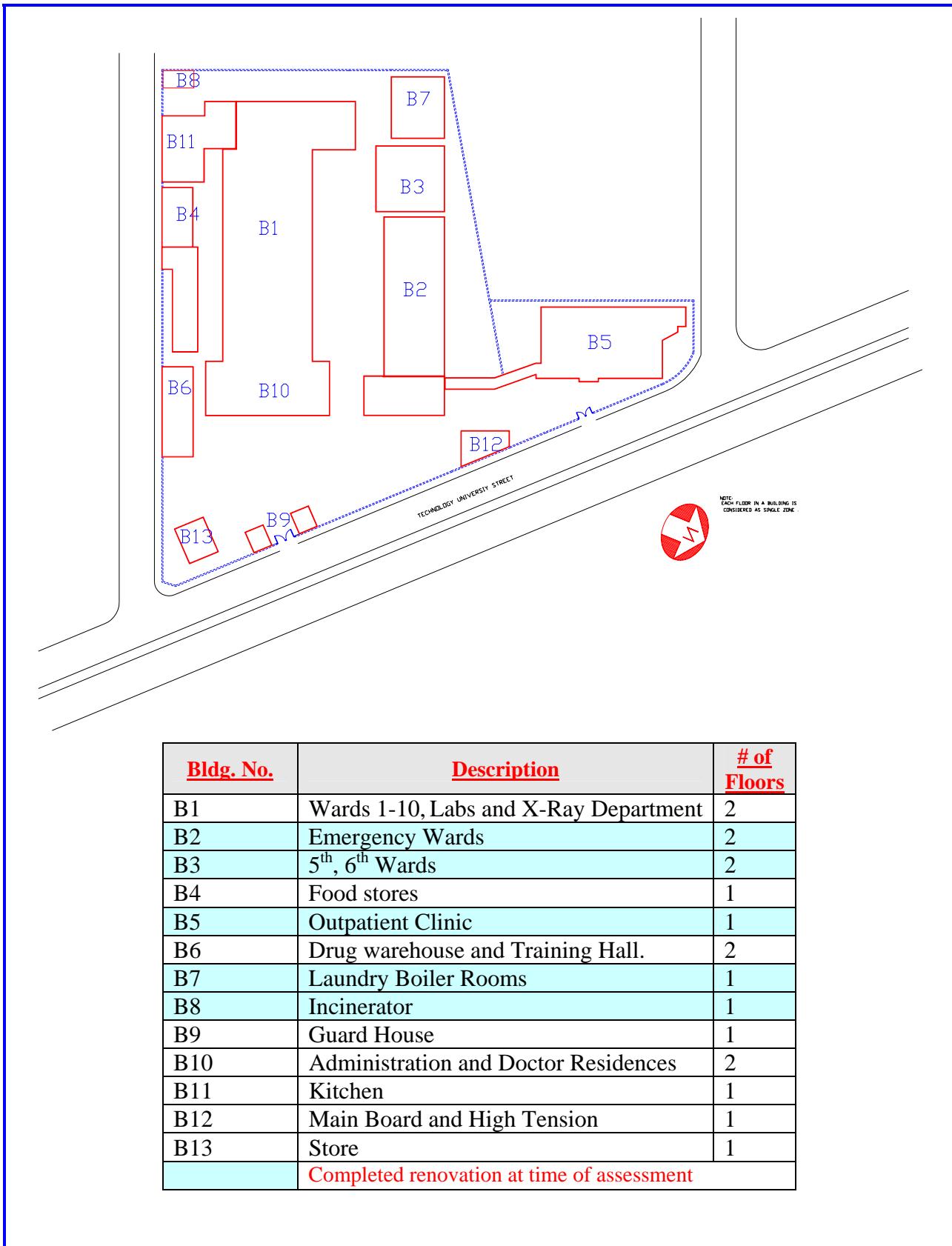
- Site work (demolition and clean up)
- Plumbing (sewer, water storage and distribution, reverse osmosis water purification unit, boilers, water heaters)

- Mechanical (heating, ventilation and air conditioning (HVAC), incinerator, elevators, medical gas system)
- Electrical (electrical service from main power source to distribution panels, lighting and outlets, communications, fire alarm system, public address system)
- Structural (repairs to structural components—beams, columns, floor system, roofing)
- Security (grilles over window and doors, fencing)
- Architectural (windows and doors, exterior and interior walls, ceilings, floors, medical treatment spaces, toilet rooms, office spaces/meeting rooms, kitchen, hallways, patient rooms)
- Cleanup

The follow-on contract SOW after Parsons' termination included essentially the same scope as above except for the incinerator and the reverse osmosis water purification unit. In addition, the SOW also included:

- Punch list items remaining for completed hospital facilities
- Remaining work in the current facilities underway

Figure 1 provides a layout of the hospital site's buildings/facilities. In the legend, the buildings that had been renovated under the Parsons contract are highlighted. The completed buildings included B2, B3, B5, B7 and B8. Building B2 contains patient wards, treatment rooms, and x-ray rooms. Building B3 contains two patient wards, one on each of the two floors. The outpatient clinic contains a pharmacy, treatment rooms, x-ray rooms, and a dental office. B7, the laundry, included a boiler room, a sewing room, and a laundry room. Parsons also installed a new incinerator (B8) for the hospital.



**Figure 1. Al Alwaiya Children's Hospital buildings and renovation status**

## **Current Project Design and Specifications**

The original TO SRS included a requirement for the submittal and approval of all project designs and specifications. The SOW required submission of property assessment survey/conceptual design submittal (10%), schematic design submittal (30%), design development (65%), construction documents (95%), and final design and construction documents and project manual (100%) for review and approval to the Sector Project Management Office (SPMO)<sup>1</sup>. Requirements for all construction and rehabilitation work included the use of the applicable International Building Code, International Electrotechnical Commission, National Fire Protection Association, Sheet Metal and Air Conditioning Contractor's National Association, International Mechanical Code, International Plumbing Code, and International Health Code Standards Code.

Electronic copies of the design drawings and specifications were reviewed by the assessment team. The design package contained architectural, electrical, mechanical, and plumbing drawings. Architectural drawings included floor plans, roof plans, elevations, exterior and interior wall section views, room details, door schedules, and finish schedules and details. Electrical drawings contained diagrams showing layout of distribution and sub-distribution panels, layouts for cable and cable tray runs, and electrical outlet locations. The electrical design also included plans for the following systems:

- Lighting
- Fire alarm
- Clock
- Public address
- Nurse call
- Grounding

The mechanical drawings included plan sheets and details for the hospital's HVAC systems which consisted of packaged units, window units, and split system units. Plumbing drawings consisted of drawings showing the location, type and size of the sanitary system drain lines and vent pipes. There were also water supply drawings showing the size and location of the water lines and water treatment units (e.g., sand filters, water softener, and a reverse osmosis purification unit).

The design specifications included a 1,782 page document developed under Construction Specification Institute (CSI) format with 16 divisions, covering all major items of work associated with the hospital renovation project.

Based on the assessment team's review, the design drawings and specifications appeared to be complete and consistent with the requirements of the contract.

## **Site Assessment**

The assessment team visited the Al Alwaiya Children's Hospital on two separate occasions, 14 June 2006, and 15 August 2006. On the initial site visit, the team was accompanied by the USACE Deputy Resident Engineer (DRE) and the Project Engineer (PE); while on the subsequent visit, the USACE PE accompanied the team. According to

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<sup>1</sup> SPMO is the Sector Project Management Office, which preceded the establishment of PCO. After PCO was established, the functions of SPMO were shifted to the respective PCO sector, i.e., Sector Project & Contracting Office (SPOC).

the USACE DRE, Parsons had completed 65% of the project requirements at the time of their termination, and the current Iraqi contractor has completed 8% since the follow-on contract was awarded on 11 May 2006.

On both site visits, the assessment team's inspections were limited because of time constraints. As a result, the team was unable to inspect every building or facility contained in the project scope. Our on-site assessment included inspections of the buildings and facilities listed below:

- Completed:
  - B2 - Emergency wards
  - B5 – Outpatient clinic
  - B7 – Laundry
  - Reverse osmosis (RO) purification unit
- Renovation in Progress:
  - B1 - Wards, laboratories, and x-ray rooms
  - B10 -Administration and doctor residences

From the list above, buildings B2, B5, B7 and the reverse osmosis purification unit were completed under the Parsons contract. Renovation work on the remaining buildings and facilities was in progress. The following provides a brief summary of our observations.

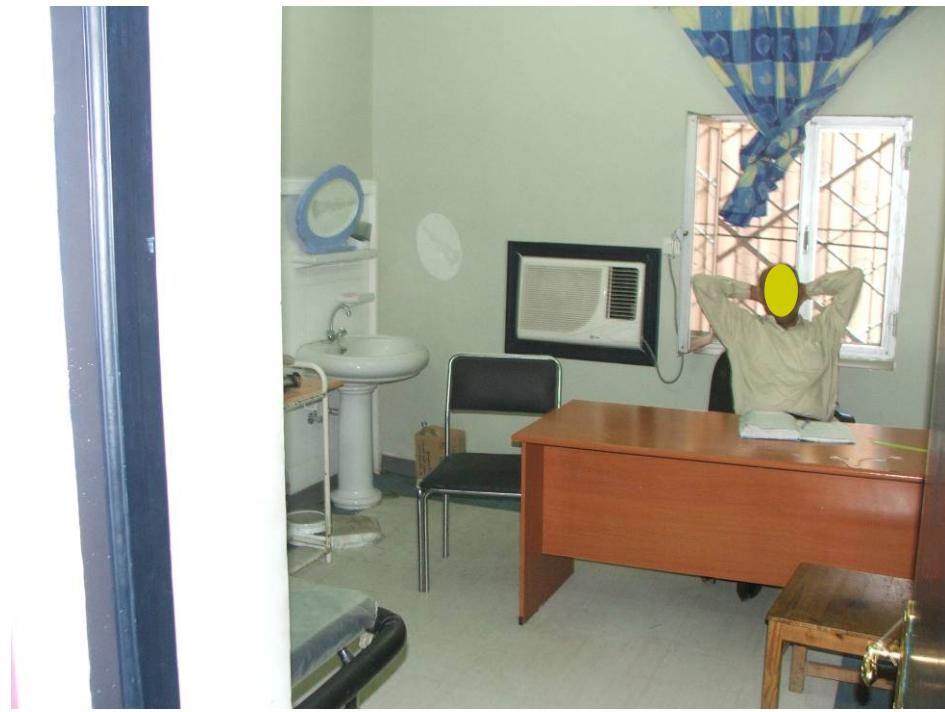
### Work Completed

#### *B2 (Emergency Wards)*

The renovation for building B2 included repairing and painting walls, ceilings, doors, and window frames as well as installing new vinyl tile flooring, electrical wiring, lighting, HVAC, plumbing, and bathroom fixtures. The bathroom interior wall finish and flooring consisted of ceramic tiles. It also included new plastering and rendering on the exterior walls. At the time of our inspection on 14 June 2006, both floors of this building were occupied. Our inspection included the wards and corridors. No significant deficiencies were identified during the assessment. Site Photos 1-5 provide examples of the completed renovation work on the building B2.



Site Photo 1. Exterior of building B2



**Site Photo 2. Renovated office in building B2**



**Site Photo 3. Split system HVAC evaporator unit in building B2**



**Site Photo 4. One of the main corridors in building B2**



**Site Photo 5. Electrical outlet box in patient ward in building B2**

*B5 (Outpatient Clinic)*

Building B5, the hospital's one story outpatient clinic contained a pharmacy, x-ray rooms, lab rooms, treatment rooms, a dental treatment room, and a patient waiting area. The renovation scope for building B5 was essentially the same as B2. The interior

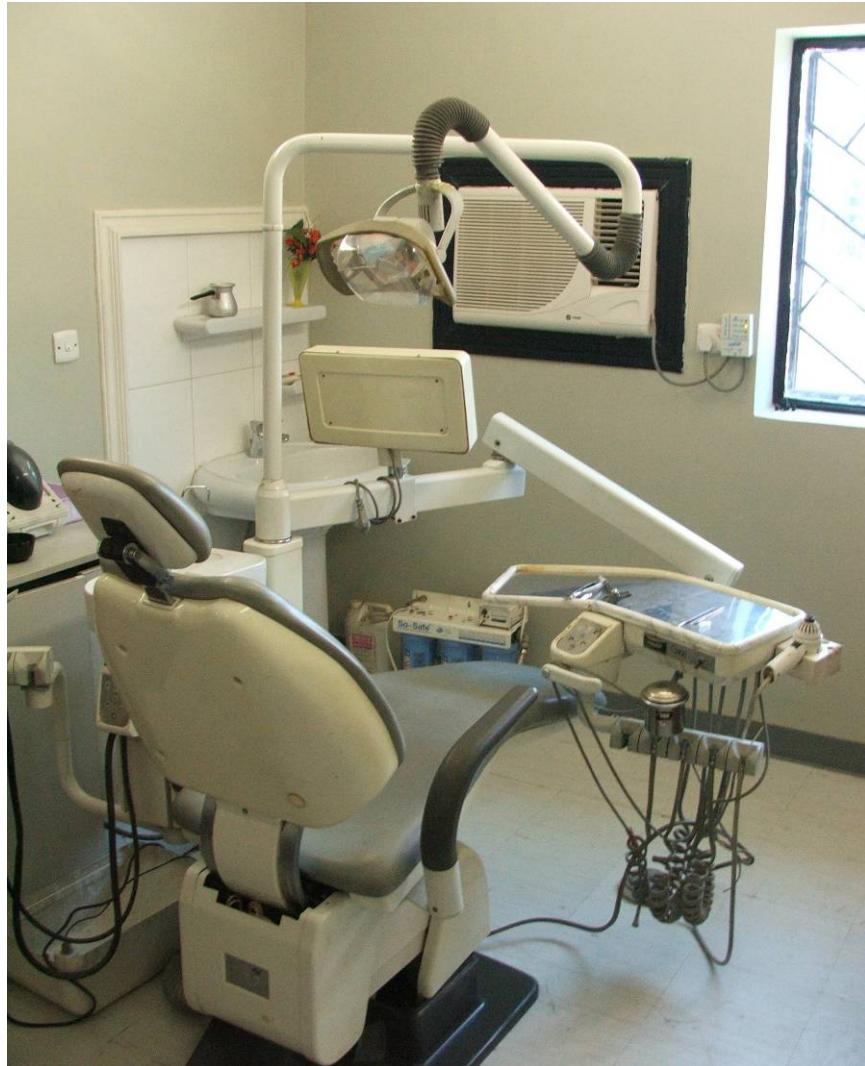
renovations included the repair and painting of interior walls, ceilings, doors, and window frames as well as installation of new vinyl tile flooring, electrical wiring, lighting, HVAC, plumbing, and bathroom fixtures. Suspended acoustical ceilings were also installed in the corridor and patient waiting area. Site Photo 6 shows the pharmacy exterior adjacent to the patient waiting area. Site Photo 7 shows one of the stand alone HVAC units installed in the clinic. The assessment team did not observe any noticeable deficiencies associated with the renovation of the outpatient clinic. However, while inspecting the renovation work in the dental office, we were informed by a hospital clinic administrator that the dental chair and ancillary equipment (Site Photo 8) donated to the hospital for use in the clinic could not be utilized because the operation and maintenance manuals were written in Italian and needed to be translated to Arabic.



**Site Photo 6. Pharmacy in the outpatient clinic**



**Site Photo 7. Stand alone HVAC unit in the clinic waiting area**



**Site Photo 8. Dental office in the outpatient clinic**

***B7 (Laundry)***

Building B7, the hospital's one story laundry building included rooms for washing and drying equipment, a boiler room, a sewing room, and a room for hand washing linens. Major items associated with the renovation scope included: a new electrical service panel, cable trays, conduit and wiring to support the existing washing and drying equipment; a new exhaust system for the dryers; repairs to the existing boiler; a new lighting system; repairs, plastering, and painting interior walls and ceilings; and new mosaic tile flooring. The renovation also included installation of ceramic tile flooring and walls in the room used for hand washing. When the assessment team inspected, the laundry personnel were working and the laundry appeared functional. Site Photo 9 shows the room containing the dryers, which also includes the new lighting, and exhaust system for the dryers.



**Site Photo 9. Laundry room containing dryers**

*Reverse Osmosis (RO) Purification Unit*

The hospital RO unit, located on ground level on the north side of building B2, is designed to provide purified water to the laboratories and dental operating room. The package system, designed to produce 6,400 gallons a day, contains a multimedia filter (sand) and a carbon filter for pretreatment of water, a water softener unit, and pressure vessels containing semi-permeable membranes for de-mineralizing the water at high pressure. The specifications indicate the basis for the RO unit design is a 24 hours a day operation. Site Photo 10 shows the trailer housing the packaged RO unit.



**Site Photo10. Container housing the RO unit**

During our site visit, we observed the components for the RO unit in-place inside the trailer. The USACE DRE and PE told us the RO unit was not functioning or being utilized by the hospital staff. The USACE DRE also believed the RO unit's semi-permeable membranes were plugged by a bio-film residue covering the membrane pores, since the RO unit was not operating and backwashing on a continuous basis. Site Photo 11 shows pressure vessels containing the semi-permeable membranes and Site Photo 12 shows the control panel for the RO unit.



**Site Photo 11. Pressure vessels containing RO membranes**



**Site Photo 12. RO control panel**

## Work in Progress

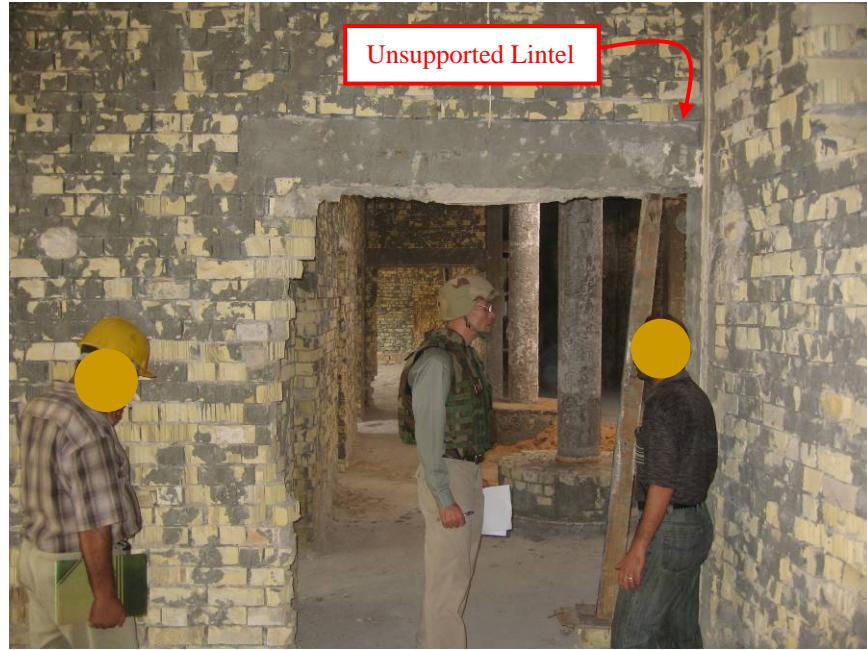
### *Buildings B10 and B1*

Although shown in Figure 1 as separate facilities, buildings B10 (administration and doctors residences) and B1 (wards, laboratories, and x-ray rooms) share a common wall separating the two structures. Each building had been gutted with only the structural concrete frame and brick walls remaining after demolition. The existing windows, doors, flooring, wall covering, electrical wiring, plumbing, and all electrical and bathroom fixtures were removed by the contractor. At the time of our assessment, the contractor was repairing concrete lintels over doorways, repairing and replacing sections of brick walls, installing electrical conduit and water piping, and plastering sections of brick walls.

In our inspection of these two buildings, no significant discrepancies were found. However, in some areas, it appeared the existing brick walls and lintels had been poorly constructed when the buildings were originally constructed. Site Photo 13 provides an example of one of the original brick walls requiring repair or replacement. Further, some of the exposed lintels had only been supported on one side of the doorway, as shown in Site Photo 14. According to the USACE, the renovation work would include proper support for the lintels.



**Site Photo 13. Existing brick walls in building B1 after demolition of interior finishes**



**Site Photo 14. Unsupported lintel in building B1**

During our inspection, we also observed fabricated HVAC ductwork staged in rooms but not yet installed. Also, in the rear portion of building B1, the contractor had completed wall repairs, plastering, and painting. In this section, the contractor has also installed door frames and doors, as well as suspended acoustical ceiling tiles in the corridors.

The contractor had also installed electrical conduit and pulled wire in the rear section of building B1. In addition, we also observed bathrooms where the contractor had placed new ceramic tile on the floors and walls. Site Photo 15 shows one of the corridors in the rear section of the building after the walls had been repaired, plastered and painted. Site Photo 16 shows the completed ceramic tile installation and a new wash basin in one of the bathrooms on the first floor. In this section of building B1, we did not observe any noticeable deficiencies in the workmanship.



**Site Photo 15.** Plastered and painted walls in the rear section of building B1.



**Site Photo 16.** One of the bathrooms in building B1 rear section after ceramic tile placement.

# Project Quality Management

## Contractor's Quality Control Program

The Al Alwaiya Children's Hospital contract specified a requirement for a Contractor Quality Control (QC) plan. The QC plan was to be adhered to throughout the duration of the design, construction, installation, testing, and commissioning phases. Parsons developed a Quality Management plan, which included QC requirements for its subcontractors. Parsons provided a basic QC plan to its subcontractors. Parsons' subcontractors' QC plans failed to meet the requirements stated in the PCO Standard Operating Procedure (SOP) CN-103 - Contractor Construction Quality Control plan. The QC plans were generic plans that lacked any site or task specific details, test plans, did not contain a subcontractor organizational chart, and lacked subcontractors' job qualifications. Parsons did require the use of a three-phase checklist by its subcontractors and daily QC reports. In an attempt to improve the subcontractors' QC, Parsons instituted a training program for its subcontractors QC Representatives.

The subcontractor provided daily QC reports that presented a brief background on the number of workers, the work activities completed, any tests or inspections performed, and a two-week look ahead, which were accessible through Parsons' website. The QC Representatives monitored field activities and completed daily QC reports. The QC reports did not always include sufficiently complete daily observations of what occurred at the site, problems encountered at the site that required corrective actions, or solutions achieved to correct problems at the site. In addition, the QC Representatives did not complete and submit QC deficiency logs; consequently, there is no assurance that potential construction deficiencies were detected, evaluated, and properly corrected in a timely manner.

## Government Quality Assurance

The USACE Engineering Regulation (ER) 1110-1-12 and PCO SOP CN-100 specified requirements for a Government QA program. The USACE QA program was adequate. The USACE Quality Assurance Representatives (QARs) were on site during rehabilitation and construction events. The USACE QARs monitored field activities and completed daily QA reports, which were sufficiently complete, accurate, and timely. Furthermore, the QA reports included project specific or detailed photographs that reinforced the information provided in reports.

The PCO CN-102 requirement states that the QAR will maintain a QA deficiency log for all the deficiencies noted during the QA inspections, which will include digital photographs of any deficiencies noted. The USACE QAR did maintain a QA deficiency log.

# Project Sustainability

The original contract with Parsons stated that the contractor shall prepare a preventive maintenance plan that shall identify the manufacturer's information and recommendations for preventive maintenance on all installed equipment in coordination with the Ministry of Health. In addition, the contractor is responsible for providing appropriate training for all operators and technicians to allow the hospital to conduct long-term routine and preventive maintenance. The contractor shall provide a

comprehensive training manual, and the equipment manufacturer's representatives or technical experts shall conduct training.

When the original contract with Parsons was terminated, the bridge contract with the Rukin Al-Zawraa Company stated that the contractor shall provide and certify manufacture warranty(s) for all equipment, which includes any mechanical, electrical, and/or electronic devices for a period of 12 months after the hospital has been commissioned; provide all other commonly offered extended warranties for equipment and machinery purchased; provide a 12-month contractor-certified construction warranty for all building equipment, construction, and components; and provide and certify warranties in the name of the appropriate Ministry.

For Operation and Maintenance, the contractor shall provide three copies of legible operation and maintenance manuals for all new equipment, finishes, fixtures, and hardware, bound and catalogued in CSI format in both English and Arabic language, to the USACE/PCO.

## Conclusions

Based upon the results of our site visit, we reached the following conclusions for assessment objectives 1, 2, 3, 4, and 5. Appendix A provides details pertaining to Scope and Methodology.

1. Determine whether project components were adequately designed prior to construction or installation.

The design provided to the assessment team was sufficient to renovate the facility. The design included architectural, electrical, mechanical, and plumbing drawings. Design drawings and specifications appeared to be complete and consistent with the requirements of the contract. The design, coupled with a consistent bill of quantities, provides enough information and detail for the contractor to renovate and modernize the Al Alwaiyi Children's Hospital.

2. Determine whether construction met the standards of the design.

Based upon the review of the USACE QA reports and construction photos, and our site visits, the work observed appeared to be consistent with the standards of the contract design. The USACE DRE and staff capably managed the project. As a result, the city of Baghdad, Iraq should receive a renovated and modernized Children's Hospital.

3. Determine whether the Contractor's Quality Control plan and the Government's Quality Assurance program were adequate.

The contractor's QC plan was sufficiently detailed to effectively guide the contractor's quality management program. The contractor submitted a QC plan, which based on our review, met the standards addressed in ER 1180-1-6 (*Construction Quality Management*). The contractor submitted QC reports on a daily basis, which were reviewed by the USACE DRE. The QC reports did not always include sufficiently complete daily observations of what occurred at the site, problems encountered at the site that required corrective actions, or solutions achieved to correct problems at the site. In addition, the contractor did not maintain deficiency logs to document problems noted with construction/renovation activities.

The Government QA program was effective in monitoring the contractor's QC program. The USACE QAR maintained daily QA reports that documented any deficiencies noted at the site. Based on our review, we found the QAR's reports to be sufficiently complete, accurate, and timely. In addition to containing project specific information to document construction progress and highlight deficiencies, the QAR also supplemented them with detailed photographs that reinforced the narrative information provided in the reports. The QAR did maintain a QA deficiency log, and the DRE and the QAR ensured deficiencies cited during QA inspections were corrected.

4. Determine if project sustainability was addressed.

Sustainability was addressed in the TO requirements. The TO required a one-year warranty for all building equipment, construction, and components and commonly offered extended warranties for equipment and machinery purchased. In addition, the TO required three copies of legible operation and maintenance manuals in English and Arabic for all new equipment, finishes, fixtures, and hardware.

5. Determine whether project results were consistent with original objectives.

The Al Alwaiya Children's' Hospital project results, to date, are consistent with the original contract objectives. As a result of the renovation/modernization, this hospital will render a modern facility that provides a healthy and safe environment for its patients, visitors, and employees.

## **Recommendations and Management Comments**

This report does not contain any negative findings or recommendations for corrective action. Although management comments were not required, the Commander, Gulf Region Division of the U.S. Army Corps of Engineers provided comments concurring with the draft report.

## **Appendix A. Scope and Methodology**

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We performed this project assessment from May through November 2006 in accordance with the Quality Standards for Inspections issued by the President's Council on Integrity and Efficiency. The assessment team included a professional engineer and an auditor. In performing this Project Assessment we:

- Reviewed contract documentation to include the following: Task Order, Task Order Modifications, contract documentation, and Scope of Work;
- Reviewed the design package (drawings and specifications), Quality Control Plan, Contractor's Quality Control Reports, U.S. Army Corps of Engineers Quality Assurance Reports, Construction Progress Photos, Punch Lists, and Turnover Letters;
- Interviewed the U.S. Army Corps of Engineers Deputy Resident Engineer and Project Engineer; and
- Conducted two on-site assessments and documented results at the Al Alwaiya Children's Hospital Project in Baghdad, Iraq.

## **Appendix B. Acronyms**

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CLIN	Contract Line Item Number
CSI	Construction Specification Institute
CPA	Coalition Provisional Authority
DCAA	Defense Contract Audit Agency
DRE	Deputy Resident Engineer
FAR	Federal Acquisition Regulation
GRD	Gulf Region Division
HVAC	Heating, Ventilation and Air Conditioning
JCC-I/A	Joint Contracting Command – Iraq/Afghanistan
NTP	Notice to Proceed
PCO	Project and Contracting Office
PE	Project Engineer
QA	Quality Assurance
QAR	Quality Assurance Representative
QC	Quality Control
RE	Resident Engineer
RO	Reverse Osmosis
SOW	Scope of Work
SPCOC	Sector Project & Contracting Office
SPMO	Sector Project Management Office
SRS	Statement of Requirements and Specifications
USACE	U.S. Army Corps of Engineers
TO	Task Order

## **Appendix C. Report Distribution**

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### **Department of State**

Secretary of State  
    Senior Advisor to the Secretary and Coordinator for Iraq  
U.S. Ambassador to Iraq  
    Director, Iraq Reconstruction Management Office  
Inspector General, Department of State

### **Department of Defense**

Secretary of Defense  
Deputy Secretary of Defense  
    Director, Defense Reconstruction Support Office  
Under Secretary of Defense (Comptroller)/Chief Financial Officer  
    Deputy Chief Financial Officer  
    Deputy Comptroller (Program/Budget)  
Inspector General, Department of Defense

### **Department of the Army**

Assistant Secretary of the Army for Acquisition, Logistics, and Technology  
    Principal Deputy to the Assistant Secretary of the Army for Acquisition,  
        Logistics, and Technology  
    Deputy Assistant Secretary of the Army (Policy and Procurement)  
Assistant Secretary of the Army for Financial Management and Comptroller  
Chief of Engineers and Commander, U.S. Army Corps of Engineers  
    Commanding General, Gulf Region Division  
Auditor General of the Army

### **U.S. Central Command**

Commanding General, Multi-National Force - Iraq  
    Commanding General, Joint Contracting Command – Iraq/Afghanistan  
    Commanding General, Multi-National Corps – Iraq  
    Commanding General, Multi-National Security Transition Command – Iraq  
Commander, Joint Area Support Group – Central

### **Other Defense Organizations**

Director, Defense Contract Audit Agency

## **Other Federal Government Organizations**

Director, Office of Management and Budget  
Comptroller General of the United States  
Inspector General, Department of the Treasury  
Inspector General, Department of Commerce  
Inspector General, Health and Human Services  
Inspector General, U.S. Agency for International Development  
Mission Director – Iraq, U.S. Agency for International Development

## **Congressional Committees and Subcommittees, Chairman and Ranking Minority Member**

### **U.S. Senate**

Senate Committee on Appropriations  
    Subcommittee on Defense  
    Subcommittee on State, Foreign Operations and Related Programs  
Senate Committee on Armed Services  
Senate Committee on Foreign Relations  
    Subcommittee on International Operations and Terrorism  
    Subcommittee on Near Eastern and South Asian Affairs  
Senate Committee on Homeland Security and Governmental Affairs  
    Subcommittee on Federal Financial Management, Government Information and International Security  
    Subcommittee on Oversight of Government Management, the Federal Workforce, and the District of Columbia

### **U.S. House of Representatives**

House Committee on Appropriations  
    Subcommittee on Defense  
    Subcommittee on Foreign Operations, Export Financing and Related Programs  
    Subcommittee on Science, State, Justice and Commerce and Related Agencies  
House Committee on Armed Services  
House Committee on Government Reform  
    Subcommittee on Management, Finance and Accountability  
    Subcommittee on National Security, Emerging Threats and International Relations  
House Committee on International Relations  
    Subcommittee on Middle East and Central Asia

## **Appendix D. Project Assessment Team Members**

The Office of the Assistant Inspector General for Inspections, Office of the Special Inspector General for Iraq Reconstruction, prepared this report. The principal staff members who contributed to the report were:

Andrew Griffith, P.E.

Kevin O'Connor